

CLAIMS

1. A bottle security device for use with a bottle having a neck, the bottle security device comprising:

an inner member adapted to fit around at least a portion of the neck of the bottle;

an intermediate member defining a cavity; a portion of the inner member being disposed in the intermediate member cavity; the inner member being moveable between locked and unlocked positions;

an outer member defining a cavity; a portion of the intermediate member and a portion of the inner member being disposed in the outer member cavity; and

a rotatable member that engages and moves a portion of the intermediate member to unlock the device when the rotatable member is rotated.

2. The device of claim 1 further comprising a locking mechanism which selectively allows the rotatable member to move between a rotatable member locked position and a rotatable member unlocked position.

3. The device of claim 2 wherein the locking mechanism includes at least one magnetically movable piston which creates an interference between the rotatable member and another member of the device when in the rotatable member locked position.

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4. The device of claim 3 further including a spring which biases the at least one piston into locking engagement between the rotatable member and the other member of the device.

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5. The device of claim 1 wherein the intermediate member includes at least one engaging finger which the rotatable member engages and moves to unlock the device when the rotatable member is rotated.

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6. The device of claim 5 wherein the at least one engaging finger moves radially outwardly to unlock the device.

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7. The device of claim 6 wherein one of the rotatable member and the at least one engaging finger includes a camming surface which engages the other of the rotatable member and the at least one engaging finger to move the at least one finger radially outwardly to unlock the device when the rotatable member is rotated.

8. The device of claim 1 wherein one of the rotatable member and the intermediate member includes a camming surface which engages the other of the rotatable member and the intermediate member to move a portion of the intermediate member to unlock the device when the rotatable member is rotated.

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9. The device of claim 1 wherein the rotatable member is disposed one of substantially and entirely within the outer member cavity.

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10. The device of claim 1 wherein the entire rotatable member is disposed above the inner member when the device is locked on the bottle.

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11. The device of claim 1 wherein the rotatable member has a rotated position which unlocks the device, a non-rotated position, a locked position and an unlocked position; the rotatable member must be in the non-rotated position to move from the unlocked position to the locked position; a force must be applied to move the rotatable member from the non-rotated position to the rotated position; and wherein the rotatable member automatically returns to at least the rotatable member unlocked and non-rotated positions when the force is removed.

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12. The device of claim 11, further comprising a resilient member that returns the rotatable member to the non-rotated position.

5 13. The device of claim 11 further including a magnetic key which engages the rotatable member to move the rotatable member from the locked position to the unlocked position and from the non-rotated position to the rotated position; and wherein the rotatable member automatically returns to the rotatable member locked position when the key is disengaged from the rotatable member.

10 14. The device of claim 1 wherein the inner member automatically moves from the locked position to the unlocked position when the rotatable member is rotated.

15 15. The device of claim 14 wherein the inner member includes a plurality of resilient locking fingers which move radially outwardly when the inner member moves from the locked position to the unlocked position.

20 16. The device of claim 15 wherein the intermediate member includes a camming surface which the resilient locking fingers slidably engage with outward pressure so that outward movement of the locking fingers is translated

to downward movement of the inner member to create the automatic movement of the inner member from the locked to the unlocked position.

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17. The device of claim 1 further including an EAS tag disposed within the cavity of the outer member.

18. The device of claim 1 wherein the inner member is disposed entirely within the intermediate member when the device is locked on the bottle.

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19. A bottle security device for use with a bottle having a neck, the bottle security device comprising:

an inner member adapted to fit around at least a portion of the neck of the bottle; the inner member being moveable between locked and unlocked positions;

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an outer member defining a cavity; a portion of the inner member being disposed in the cavity;

at least one finger projecting upwardly within the cavity and engaging the inner member to lock the device;

a rotatable member which is selectively rotatable to unlock the device;

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and

one of the rotatable member and the at least one finger including a camming surface which engages the other of the rotatable member and the finger to move the finger radially to unlock the device when the rotatable member is rotated.

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20. The device of claim 19 further comprising a magnetically actuated locking mechanism which selectively allows the rotatable member to move between a rotatable member locked position and a rotatable member unlocked position.

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21. The device of claim 20 wherein the rotatable member has a rotated position which unlocks the device and a non-rotated position which the rotatable member must be in to move from the unlocked position to the locked position; a force must be applied to move the rotatable member from the non-rotated position to the rotated position; and wherein a resilient member returns the rotatable member to the non-rotated position when the force is removed.

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22. The device of claim 21 wherein the locking mechanism is disposed within the cavity of the outer member.

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23. The device of claim 22 further including an EAS tag disposed within the cavity of the outer member.

24. The device of claim 23 wherein the outer member includes a sidewall having an inner surface and wherein the device further includes a plurality of strengthening fingers extending upwardly inside the outer member cavity and abutting the inner surface of the outer member sidewall.

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25. A bottle security device for use with a bottle having a neck, the bottle security device comprising:

an inner member adapted to fit around at least a portion of the neck of the bottle; the inner member being moveable between locked and unlocked positions;

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an outer member defining a cavity and having a sidewall with an inner surface; a portion of the inner member being disposed in the outer member cavity;

a plurality of resilient engaging fingers extending upwardly inside the outer member cavity and selectively engaging the inner member to lock the device; and

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a plurality of strengthening fingers extending upwardly inside the outer member cavity and abutting the inner surface of the outer member sidewall.

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26. A method comprising the steps of:

providing a bottle security device comprising an inner member adapted to fit around at least a portion of a neck of a bottle; the inner member being moveable between locked and unlocked positions; an outer member defining a cavity; a portion of the inner member being disposed in the cavity; a plurality of resilient fingers extending upwardly inside the outer member cavity and selectively lockably engaging the inner member; and a rotatable member; and

forcing the fingers to move radially to unlock the inner member from the fingers by rotating the rotatable member.